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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,267

03/31/2004

Jos Bastiaens

08CN8851-6

7478

23413

7590

04/24/2007

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EXAMINER

ZEMEL, IRINA SOPJIA

ART UNIT

PAPER NUMBER

1711

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/24/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/815,267

Applicant(s)

BASTIAENS ET AL.

Examiner

Irina S. Zemel

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-12, 14-19, 21-25, 27-32, 34-39, 41-47 and 49-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-12, 14-19, 21-25, 27-32, 34-39, 41-47 and 49-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>IDS 8-10-04 page 1 of 3 ONLY</u>       |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4, 7-12, 31, 15-16, 30-32, 34-35, 37-39, 42-47 and 49-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt and US Patent 5,525,636 to Henn et al., (hereinafter "Henn").

The disclosure of Weber reference is discussed in detail in the previous office actions and such discussion is incorporated in their rejection by reference. Further, as reflected by the applicants in their response dated 1-12-2007,

"Weber discloses expandable polymers in particle form. The expandable polymers comprise a styrene polymer, a polyphenylene ether and a blowing agent mixture (Abstract). The blowing agent mixture comprises a blowing agent having an insignificant plasticizing effect and a blowing agent having an important plasticizing effect (Col. 2, line 67 to Col. 3, line 2). The plasticizing blowing agent reduces the softening point of the mixture of polystyrene and polyphenylene ether (Col. 3, lines 27-41). The composition may optionally comprise a flameproofing agent and suitable flameproofing agents include triphenylphosphine oxide (Col. 3, lines 42-49). The expandable polymers are prepared by impregnating particles in an aqueous suspension with the blowing agent mixture at elevated temperatures and under superatmospheric pressure (Col. 3, lines 59-63)". See page 11 of the referenced response.

Thus, the only difference between the invention claimed in the broad claims of the instant application and the disclosure of the Weber reference is that the Weber reference does not expressly disclose the molecular weight of suitable polystyrenes. The examiner has addressed this point before and is still of the opinion that use of PS with the specified molecular weight would have been obvious for an ordinary artisan as quite common molecular weights for PS used in cellular PS, and also in view of Schmidt. In addition, the disclosure of Hann expressly teaches use of PS of molecular

Art Unit: 1711

weights specifically corresponding to the claimed molecular weights as further expressly teaches benefits of using lower Mw (or Mn) PS in foam applications. See column 2, lines 47-59. Thus, the invention as claimed is still considered to have been obvious for an ordinary artisan from the combined teachings of the cited prior art absent showing of unexpected results that can be clearly attributed to the claimed molecular weights of PS.

All other claimed limitations have been discussed in the previous office action and are either expressly or inherently met by the teachings of the cited references.

Claims 6, 14, 17-19, 21-25, 27-29, 36, 41, are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt and Henn and further in view of Allen.

The rejection stands as per reason of record and discussions set forth above in regard to the molecular weights of PS.

Claims 1-4, 7-12, 15-16, 30-32, 34, 35, 37-39, 42-47, and 49-53 are rejected under 35 U.S.C. 103(a) as obvious over Weber in combination with Schmidt, Henn and further in combination with Green.

The rejection stands as per reason of record as previously applicable to claims rejected over Weber in combination with Green and Schmidt.

Insofar as the recitation of the molecular weights of polystyrene in the base claims, the rejection is maintained in view of Schmidt as previously discussed, and also in view of discussion of Henn above.

Art Unit: 1711

Claims 6, 14, 17-19, 20-25, 27-29, 36, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in combination with Schmidt, Henn and Allen and further in combination with Green.

The rejection stands as per reason of record and discussions set forth above with regard to the molecular weights of the polystyrenes.

It is noted that the only arguments advanced by the applicants with respect to ANY of the outstanding rejections are the arguments concerning obviousness of the PS molecular weights. No other arguments have been presented, thus implying that all other limitations are either taught or obvious from the teachings of the references.

The limitations concerning the claimed molecular weight are addressed above.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-4, 6-12, 14-19, 21-25, 27-32, 34-39, 41-47 and 49-53 have been considered but are moot in view of the new ground(s) of rejection.

It is, however, maintained by the examiner that use of relatively low molecular weight polystyrenes (PS) in expanded polystyrene compositions is notoriously known in the art of cellular PS to achieve high expansion ratios and the invention as claimed would have been obvious for an ordinary artisan from the teachings of the above cited references in the absence of showing of unexpected results that can be attributed to the specified molecular weights (which, by the way, are quite high  $M_n$  for PS) of the claimed PS.

Art Unit: 1711

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina S. Zemel whose telephone number is (571)272-0577. The examiner can normally be reached on Monday-Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571)272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Irina S. Zemel  
Primary Examiner  
Art Unit 1711



ISZ